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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,473	12/28/2000	Hiroyuki Ikeda	201376US2	6320

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/749,473

Applicant(s)

IKEDA, HIROYUKI

Examiner

Nikolas J. Uhler

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 June 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): none.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: none.

Claim(s) objected to: none.

Claim(s) rejected: 1, 3-14.

Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☒ Other: See Continuation Sheet

Continuation of 10. Other: see attached sheet for a response to the applicants arguments.

Addendum to Advisory Action**Response to Arguments**

1. The applicants arguments filed in the after final amendment have been carefully considered but are not persuasive. The applicant has argued two points: 1. That the permalloy layers of the specifically cited example in Sugita have a total thickness that is too thin in order to attain the specifically required $\mu_{\max} \cdot T$ in claim 1 and 2. That Hokkyo et al. does not teach the required roughness of magnetic medium, as required by claim 1.
2. Regarding the applicant's arguments regarding the permalloy layers in Sugita. It appears there was some confusion during the interview dated 4/23/03. In this interview, it was the examiners understanding that the applicants had shown that at least 5000 total angstroms (meaning a sum of 5000 angstroms from multiple layers less then 5000 angstroms) of permalloy was needed in order to attain the required yoke effect/ $\mu_{\max} \cdot t$. Applicants pointed to a statement at page 3 lines 20-25 of the specification as support for this argument. However, further inspection by the examiner has revealed that this argument is only valid when a **single** permalloy layer is utilized. The prior art clearly recognizes that as the thickness of a single permalloy layer goes up, its permeability decreases, as shown by figure 5 of Sugita. Sugita clearly teaches that this problem is avoided by using multiple permalloy layers, as when multiple layers of permalloy are utilized, the permeability of the layers does not decrease (column 2, lines 45-51). Thus, the applicants argument does not relate to the closest prior art, wherein multiple thin layers of permalloy are deposited overtop a substrate. The applicants have further

argued that the μ_{\max} of permalloy is not 330H/m as the examiner asserts in the office action. The examiner points out that this μ_{\max} was merely chosen because it was the lowest μ_{\max} of all the NiFe alloys cited by the applicant in the specification. The examiner maintains that the Permalloy films utilized by Sugita will have a maximum permeability of at least 330 H/m, as there is no showing to the contrary.

3. Regarding the applicants argument with respect to the roughness of the film, the applicants have argued on the record that while Hokkyo teaches a method for forming a magnetic layer with low roughness, it does not teach a method for making a magnetic medium with low roughness. Further, the applicants have submitted some data showing that with thick layers such as those utilized by Hokkyo, the roughness increases as more films are laminated on one another, as opposed to the instant invention, which utilizes thin layers. The examiner has considered the applicant's data and arguments but does not find them to be persuasive. The applicant's appendix appears to show that when thick layers are laminated on one another, the roughness of a magnetic medium increases. However, the applicants examples utilizes a permalloy layer directly adjacent the substrate. Hokkyo specifically teaches that magnetic media utilizing a soft magnetic underlayer directly adjacent a substrate have poor surface smoothness, and teaches that to avoid this problem and obtain a media with good surface smoothness, specifically less than 50 angstroms, a smoothness controlling layer is placed between the substrate and the soft magnetic layer. The applicants showing, while convincing for a media having a soft magnetic layer directly adjacent the substrate, does not persuade the examiner that the roughness of a magnetic media will increase with additional layers

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when a smoothness control film is utilized between the substrate and the first soft magnetic layer. Thus, the examiner maintains that the combination of Sugita with Hokkyo renders obvious the applicants claimed surface roughness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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June 27, 2003


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700